

Amendments to the Claims

1 1. (currently amended) A method for estimating a channel impulse response
2 in an ultra wide bandwidth (UWB) system comprising the steps of:

3 transmitting and receiving in parallel via a channel a plurality of
4 training sequences, each training sequence being different, each training
5 sequence being modulated at a chip rate, and each training sequence
6 consisting of ultra wide bandwidth radio pulses;

7 sampling each training sequence in parallel with multiple correlators
8 at sampling rate substantially slower than the chip rate to obtain a plurality
9 of samples for each training sequence, in which the samples span a time
10 interval corresponding to an impulse response of the channel; and

11 estimating the impulse response of the channel over a the time interval
12 of corresponding to the impulse response of the channel from the plurality of
13 sample samples of the plurality of training sequences at a resolution
14 substantially equal to the chip rate.

1 2. (original) The method of claim 1, in which each training sequence is
2 passed through n correlators to generate n samples for each correlator.

1 3. (original) The method of claim 1, in which the sampling rate is at least ten
2 times slower than the chip rate.

1 4. (original) The method of claim 1, in which the sampling rate is equal to a
2 symbol rate.

- 1 5. (currently amended) The method of claim 1 further comprising:
2 estimating equalizer coefficients from ~~the estimate of the channel~~
3 ~~impulse response~~ an equalizer training sequence consisting of radio pulses.

- 1 6. (currently amended) The method of claim 1 further comprising:
2 estimating weights for the corresponding correlators to acquire most
3 of the available energy of a data signal received via the estimated channel, in
4 which the data signal consists of the ultra wide bandwidth radio pulses.

- 1 7. (currently amended) The method of claim 1, in which a first subset of the
2 samples are used for a rough estimate, and a second subset of the samples
3 are used for an accurate estimate based on the rough estimate.

- 1 8. (original) The method of claim 1, in which the estimate is based on a
2 previous estimate of the channel impulse response.

- 1 9. (currently amended) The method of claim 1, in which each correlator
2 generates k ~~sample~~ samples, where k is greater than one.

- 1 10 (new) The method of claim 1, in which the chip rate is chip rate on the
2 order of 10 GHz.

- 1 11. (new) The method of claim 7, in which the second subset of samples are
2 obtained from training sequences received after obtaining the first subset of
3 samples.